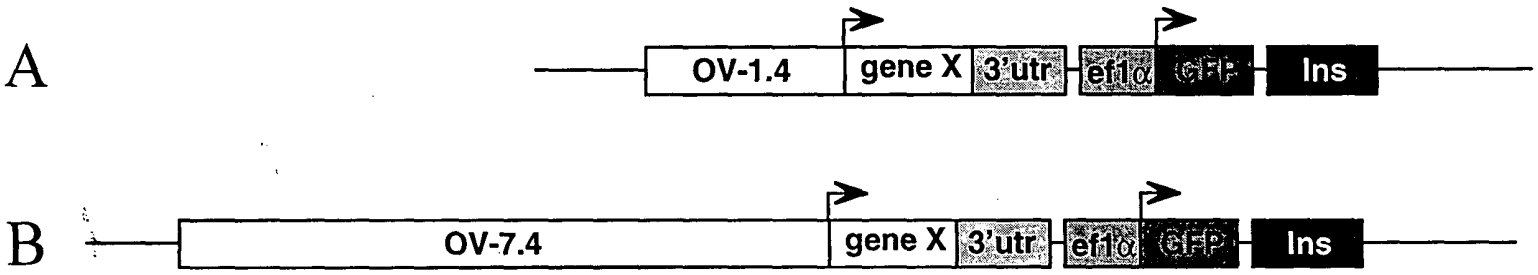
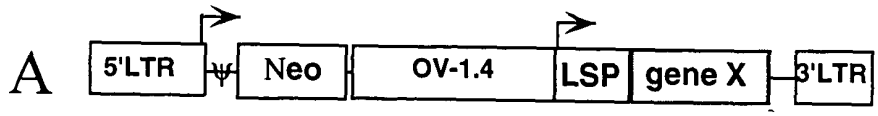
Figure 1.



OV-1.4 & -7.4: ovalbumin -1.4 and -7.4 kb promoters
gene X: a gene or cDNA encoding an exogenous protein
3'utr: 3' untranslated region containing polyadenylation site
ef-1α: translation elongation factor ef-1α promoter
GFP: humanized green fluorescent protein gene
Ins: 1.2 kb insulator element

Figure 2.



transcription start site

5' & 3' LTR: ALV long terminal repeats

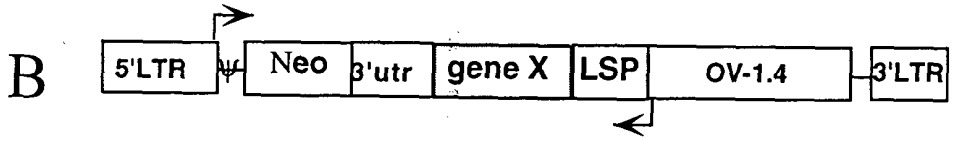
Ψ virus packaging signal

Neo: neomycin-reistance gene

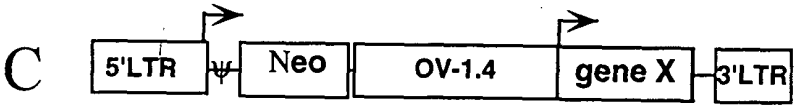
OV-1.4: ovalbumin -1.4 kb promoter

LSP: lysozyme signal peptide

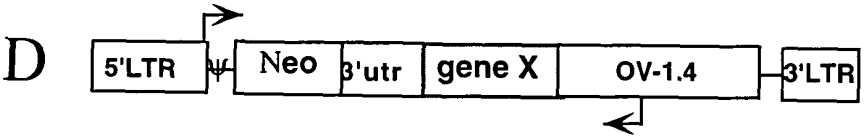
gene X: gene or cDNA encoding an exogenous protein



3'utr: 3' untranslated region containing polyadenylation site

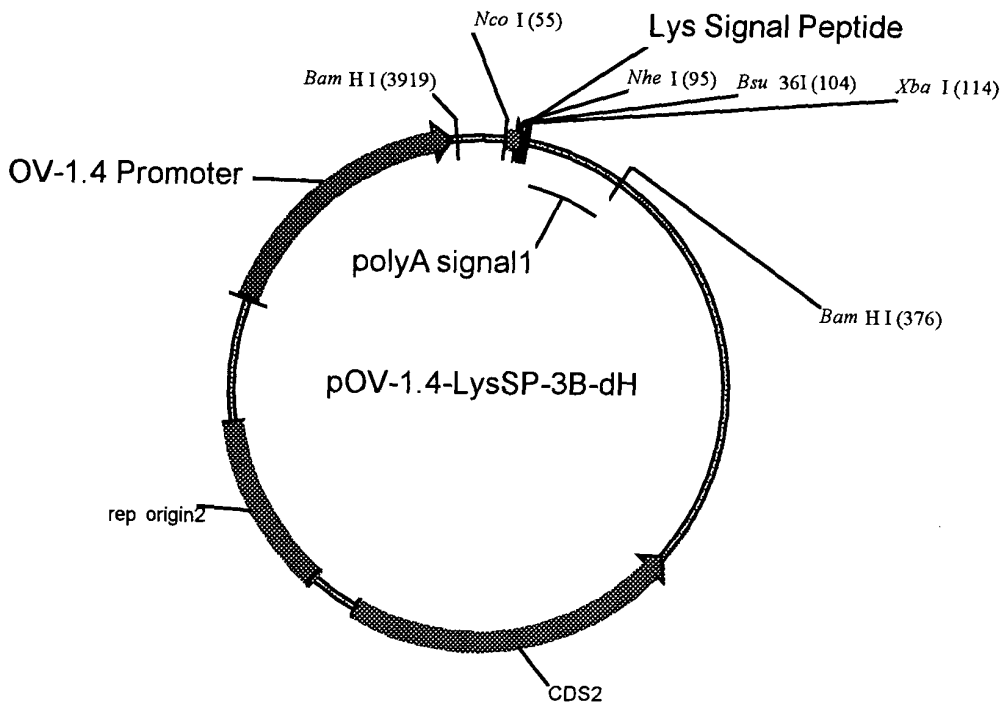


Same vector as A lacking LSP element



Same vector as B lacking LSP element

Figure 2E.



Lysozyme Signal Peptide

```
          M  G   S  L  L   I  L  V  L   C  F  L   P  L  A
        NcoI                                          NheI
51  CCACCATGGG GTCTTTGCTA ATCTTGGTGC TTTGCTTCCT GCCGCTAGCT
    GGTGGTACCC CAGAAACGAT TAGAACCACG AAACGAAGGA CGGCGATCGA

     A  L  G
     Bsu36I       XbaI
101 GCCTTAGGGC CCTCTAGAG
    CGGAATCCCG GGAGATCTC
```

▼ : Signal peptide cleavage site.

PCR Cloning of cDNA

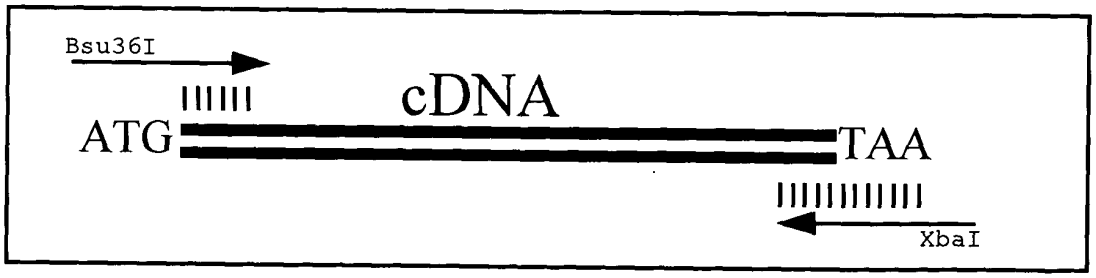


Figure 2F.

transcription start site

5' & 3' LTR: ALV long terminal repeats

Ψ virus packaging signal

Neo: neomycin-reistance gene

OV-1.4: ovalbumin -1.4 kb promoter

LSP: lysozyme signal peptide

gene X: gene or cDNA encoding an exogenous protein

gene Y: gene or cDNA encoding an exogenous protein

IRES: internal ribosome entry site

Figure 3.

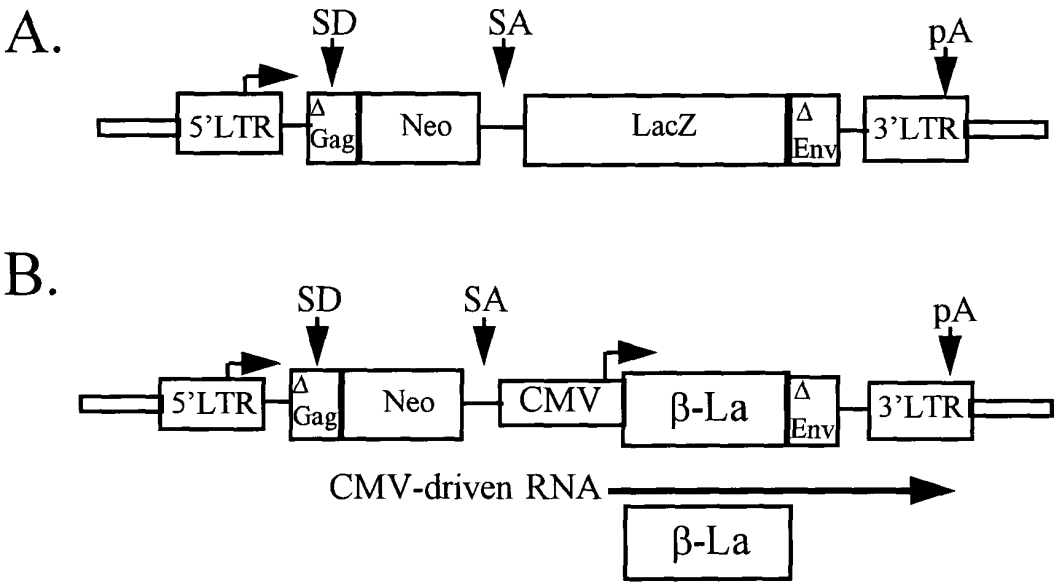

A.
SD
SA
pA
5'LTR
Δ Gag
Neo
LacZ
Δ Env
3'LTR
B.
SD
SA
pA
5'LTR
Δ Gag
Neo
CMV
β-La
Δ Env
3'LTR
CMV-driven RNA
β-La

Figure 4.

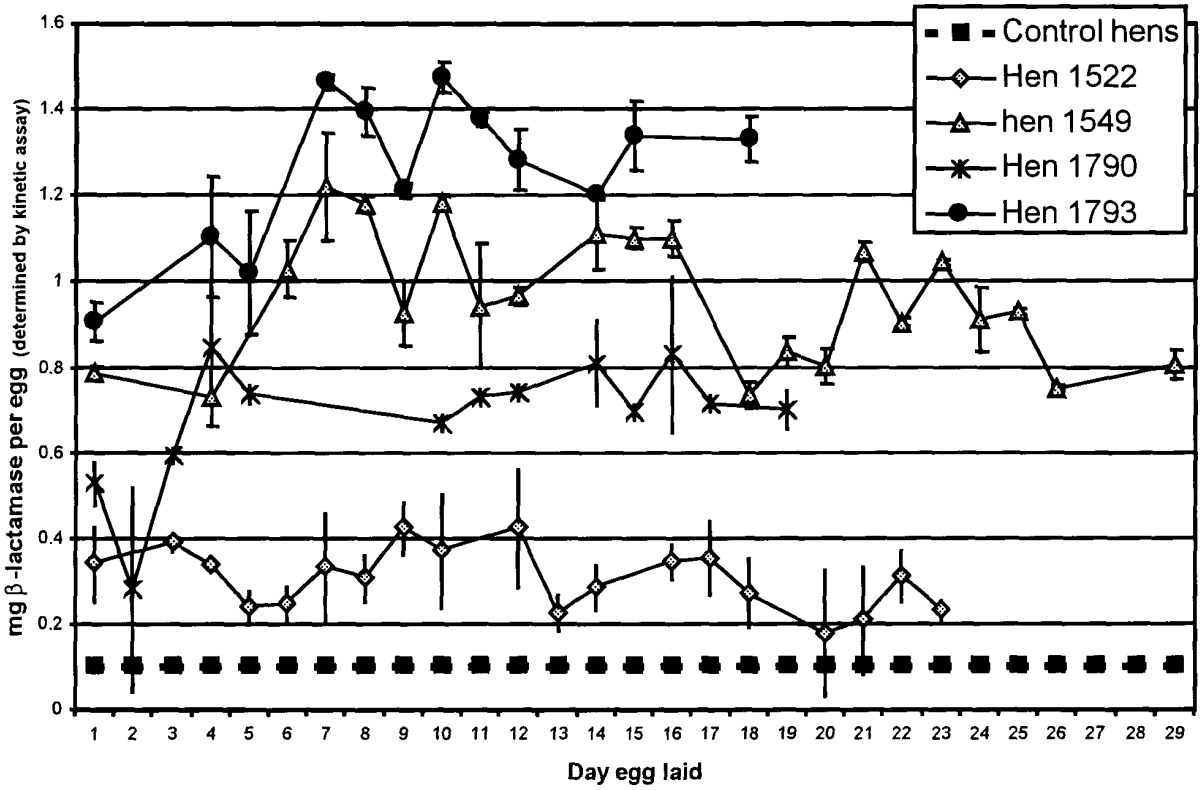

Control hens
Hen 1522
hen 1549
Hen 1790
Hen 1793
mg β-lactamase per egg (determined by kinetic assay)
0
0.2
0.4
0.6
0.8
1
1.2
1.4
1.6
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
Day egg laid

Figure 5.

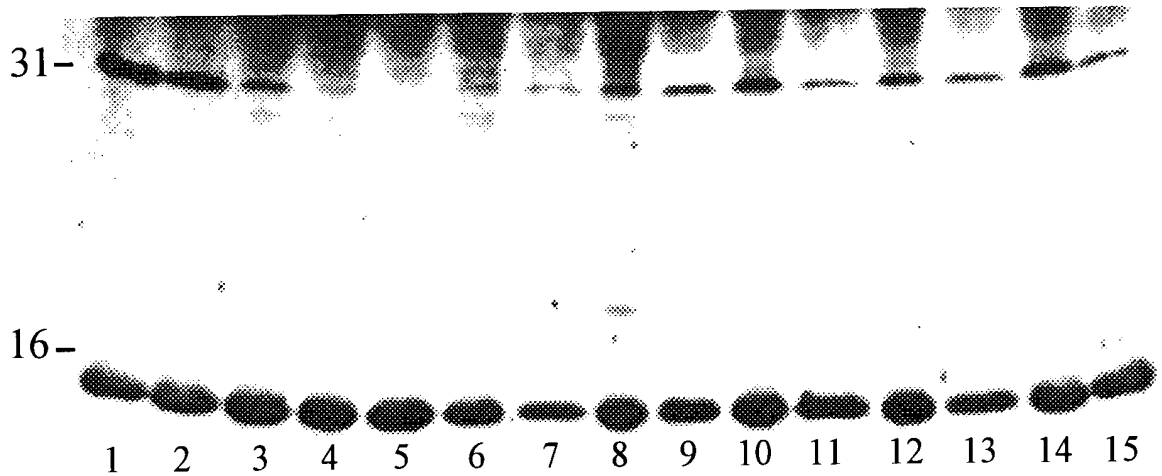


Figure 6.

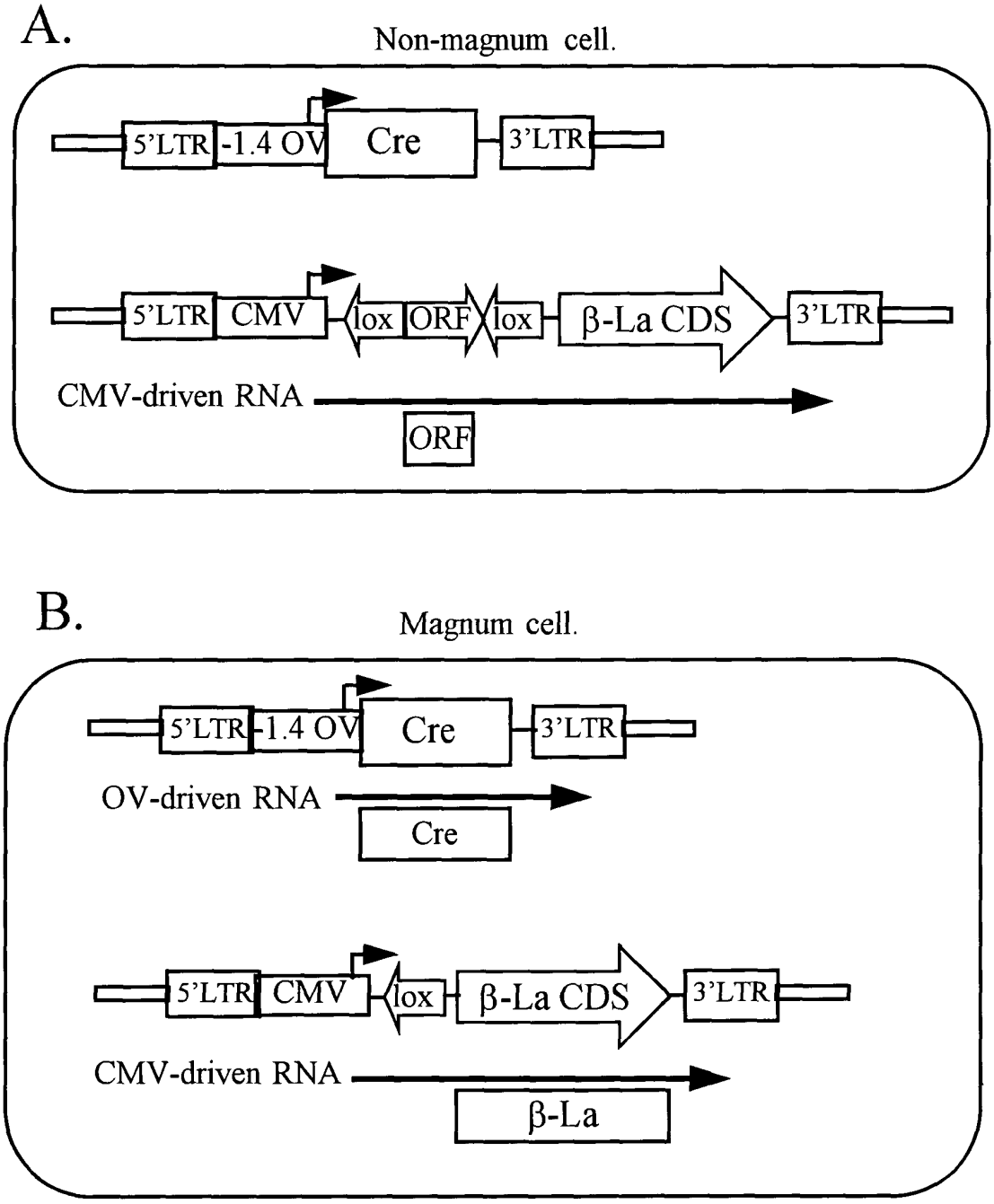

A.
Non-magnum cell.
5'LTR
-1.4 OV
Cre
3'LTR
5'LTR
CMV
lox
ORF
lox
β-La CDS
3'LTR
CMV-driven RNA
ORF
B.
Magnum cell.
5'LTR
-1.4 OV
Cre
3'LTR
OV-driven RNA
Cre
5'LTR
CMV
lox
β-La CDS
3'LTR
CMV-driven RNA
β-La

Figure 7.

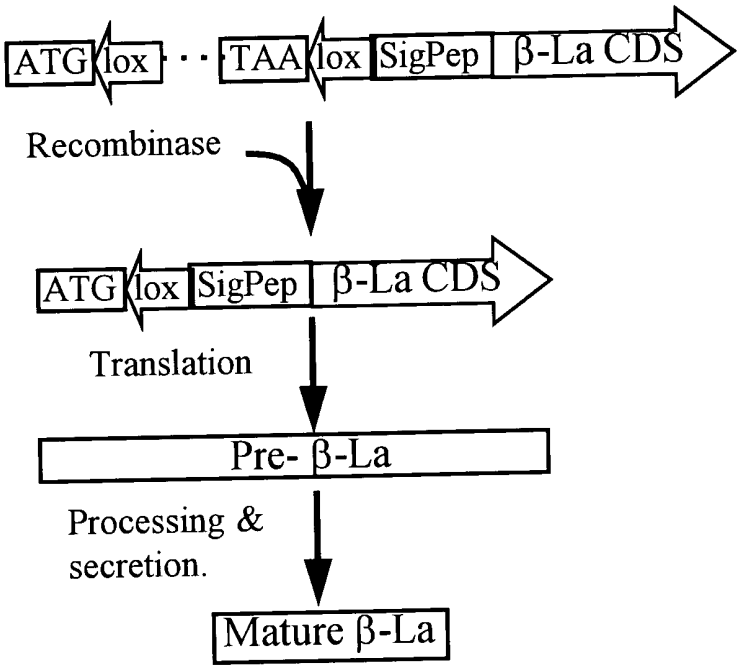
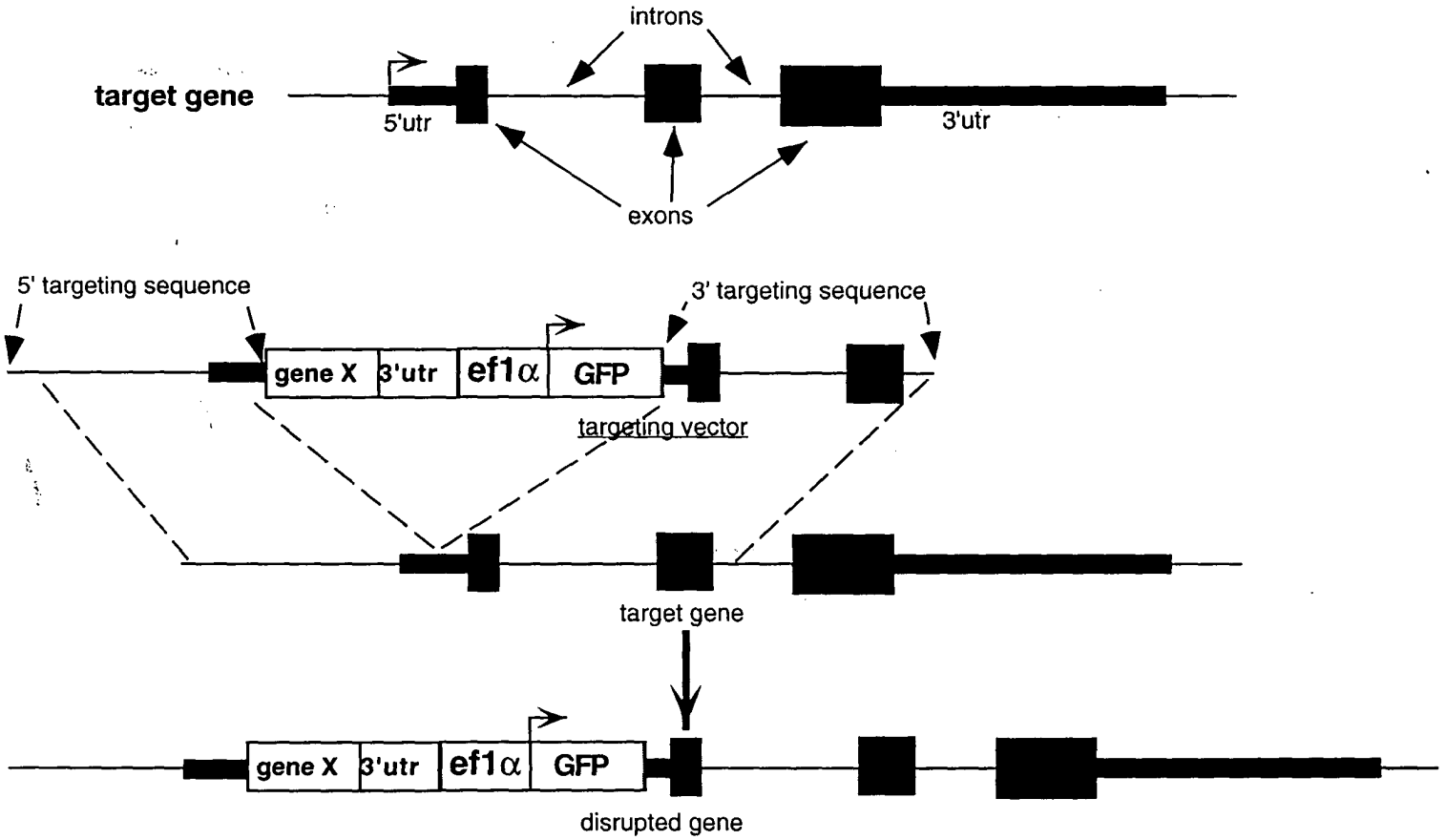

ATG
lox
TAA
lox
SigPep
β-La CDS
Recombinase
ATG
lox
SigPep
β-La CDS
Translation
Pre- β-La
Processing &
secretion.
Mature β-La

Figure 8A.



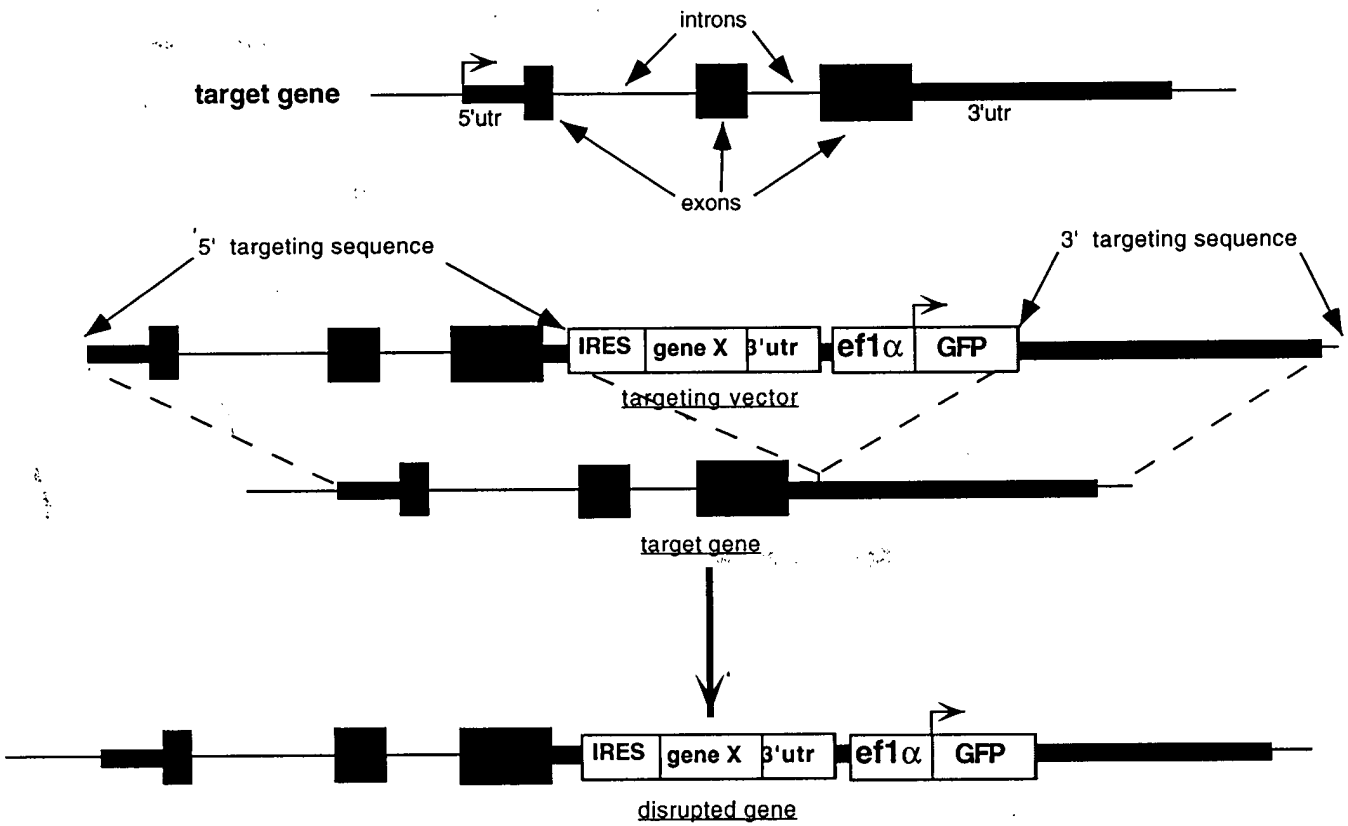
gene X: gene or cDNA encoding an exogenous protein

3'utr: 3' untranslated region containing polyadenylation site

ef1α: elongation factor 1α promoter

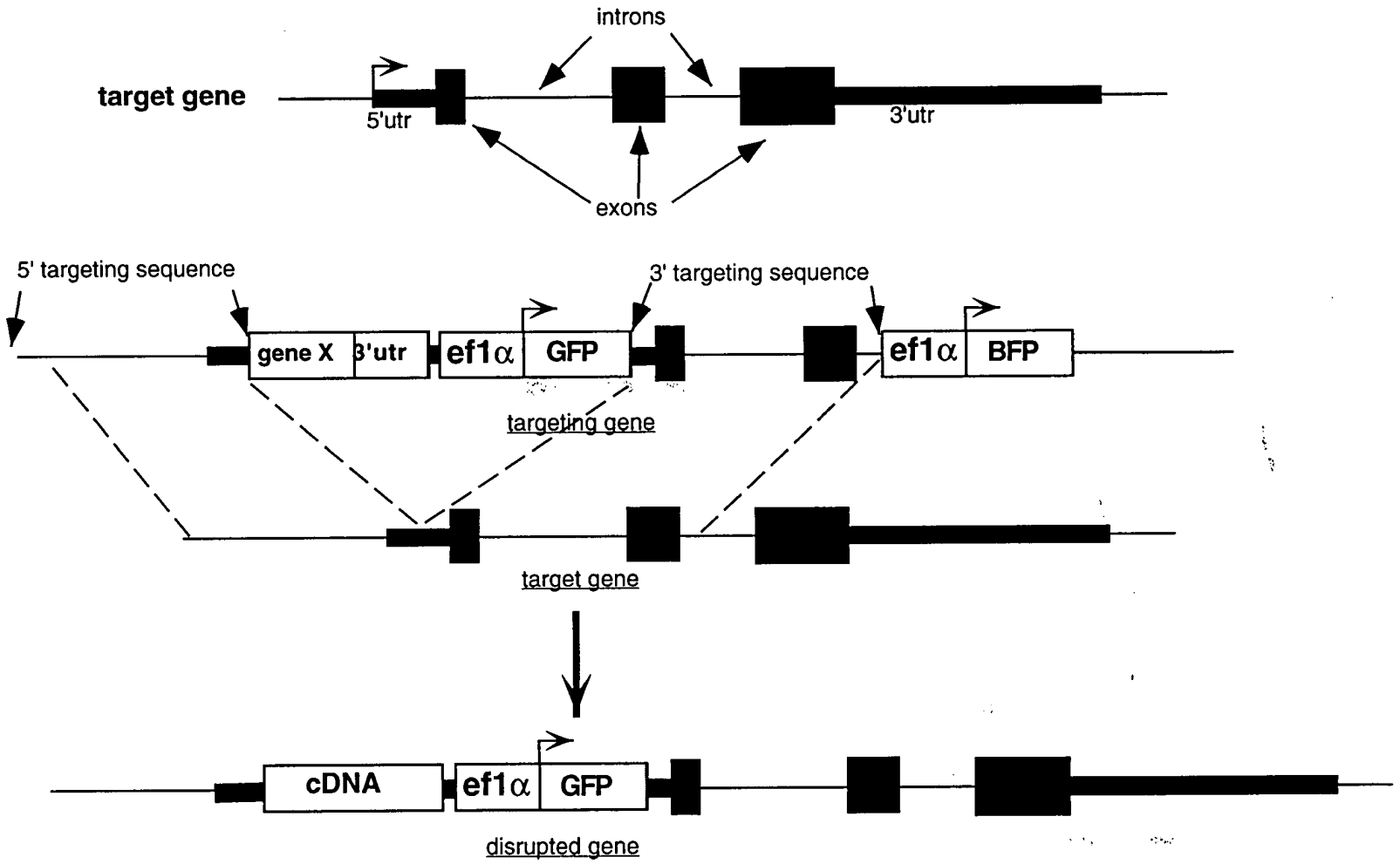
GFP: humanized green fluorescent protein gene

Figure 8B.



gene X: gene or cDNA encoding an exogenous protein
3'utr: 3' untranslated region containing polyadenylation site
ef1α: elongation factor 1α promoter
GFP: humanized green fluorescent protein gene

Figure 9.



BFP: gene encoding blue fluorescent protein